REMARKS

The Office Action of January 23, 2009, has been carefully considered.

Objection has been raised to the drawings on the basis that the projections in the form of cooling fins recited in Claim 21 are not shown.

Applicants have therefore added a new Figure 5 to the application, Figure 5 being identical to Figure 4a with the exception that the flared ends have been replaced by cooling fins designated "431." In addition, the specification has been amended add an Example 5, which describe the cooling fins of Fig. 5, this description being substantially identical to the description of Figures 4a-4c.

Objection has been raised to Claims 20, 21, 22, 23, 26 and 27. Claim 20 has been amended to change "housing" to "holes," the term "holes" having antecedent basis in Claim 12.

Claims 22, 23, 26 and 27 have been amended to utilize the term "carrier-plate."

Claims 21 and 22 have been rejected under 35 USC 112, second paragraph, as being indefinite.

Regarding Claim 21, the cooling fins are now shown in Figure 5.

Regarding Claim 22, the term "through holes" has been changed to "the through holes," thus referring back to Claim 12.

Withdrawal of this rejection is requested.

Claims 12-15 have been rejected under 35 USC 102(b) as anticipated by Agren et al.

Claim 12 has now been amended to incorporate the recitations of Claims 14 and 15, which have been canceled. Thus, according to the invention, at least one of the brake lining and the carrier-plate comprises grooves that form holes having axes along directions substantially parallel to the

planar friction surface and parallel to a given direction which corresponds to a direction of moving air close to the pad. The holes are through holes open at ends thereof to which air can pass freely.

Agren et al discloses a disk brake structure having a disk 22 and a plurality of linings 12, 12', 12", assembled mechanically to one another and fixed to a support or carrier-plate using screws 24. The linings themselves do not appear to be in contact with the carrier-plate, except at the place of projections 28, 30 and 32, with projection 28 being a radial projection for the overlapping adjacent linings 12, 12',12". Projection 30 is used to maintain spacing between the linings and the carrier-plate, and projection 32 corresponds to screw 24.

According to the invention, the carrier-plate is in close contact with the brake lining (affixed over a first surface of the brake lining), and is generally brazed to the brake lining as now recited in Claim 29. Moreover, according to Agren et al, there are no grooves in the carrier-plate, as claimed in new Claim 30.

In Agren et al, air can flow radially only. The projections 30 are spacers which maintain a gap between a lining and a corresponding support. Air can flow in such a gap, with the air being able to come into contact with projections and to be scattered in any direction.

According to the invention, there are a plurality of through holes parallel to a given direction, the holes being open at ends thereof and through which air can pass freely. The direction of the parallel holes is selected according to the position of the brake pad, as explained at page 5, lines 8 to 24 of the present specification. The pad should have "radial holes" whenever the brake pad is placed in front of the wheel rotation axis, and should have "orthoradial holes"

at 90° with respect to radial holes, whenever the brake pad is placed above the wheel rotation axis. If the brake pad is located at an angle of 45°, the corresponding holes should be oriented accordingly.

Thus, according to the invention, the holes may have any direction parallel to the direction of the moving vehicle, such direction being related to the exact location of the brake on the wheel.

Thus, Agren et al does not show an arrangement in which there are a plurality of through holes *through which air can pass freely* and which are oriented in a direction *which corresponds to direction of moving air close to the pad.* Withdrawal of this rejection is requested.

Claims 12-16 and 22 have been rejected under 35 USC 102(b) as anticipated by Nakamura.

Nakamura discloses a brake pad provided with a heat dissipating structure 102, 150, 154, which according to the Office action, directs a heat flux to be dissipated in at least one direction substantially parallel to the planar friction surface, and which is formed at an interface between the at least one brake lining and the carrier-plate. Reference is made to Figure 12b showing grooves 134.

Applicants submit, however, that grooves 132 and 134 in Figure 12b are not holes, but rather grooves which are completely open at one side. Open grooves cannot be compared to holes, since with an open groove, air is substantially free to move in any direction. This is virtually the same as a planar surface. The cooling effect of an open groove is much different from that of a hole.

According to the invention, there are a plurality of holes, the walls of which may be partially formed by the brake lining, and partially by the surface of the carrier-plate.

Thus, structurally, Nakamura does not show grooves in the

form of holes having axes along direction substantially parallel to the planar friction surface and parallel to a given direction which corresponds to a direction of moving air close to the pad.

Moreover, despite the allegation made in the Office action, Nakamura does not show holes at the interface between the brake lining and the carrier-plate, as is specifically claimed in Claim 13. Neither the cooling fins 150, 154 or the holes 140 touch a surface of friction pad 104.

Withdrawal of this rejection is requested.

In addition, Claims 17-21 have been rejected under 35 USC 103(a) over Agren et al in view of Lewis and Apunevitch et al, Claims 23 and 24 have been rejected under 35 USC 103(a) over either of Agren et al or Nakamura in view of Myers, Claim 25 has been rejected under 35 USC 103(a) over either of Agren et al or Nakamura in view of Ogiwara, and Claims 26 and 27 have been rejected under 35 USC 103(a) over either of Agren et al or Nakamura in view of Hahm.

Lewis relates to a bicycle brake shoe. While a soft metal support post 27 formed of a material such as lead is inserted in a cavity 22 in the brake shoe, the support post 27 comes into contact with wheel rim 29; it is not placed at an interface between a carrier plate and a brake lining. Indeed, the metal post is placed at what would correspond to the frictional surface of the brake lining, not at the interface.

Further, Lewis discloses a hole 23 in the brake lining which is intended to carry away by suction heat and the water vapor from block 21 and rim 29, and air from cavities 22. However, this hole 23 is in the center of the brake lining, and not at an interface between the brake lining and a support.

Apunevich et al has been cited to show a heat conducting material, but neither of these references cures the defects of

Agren et al.

Myers has been cited to show the use of a disk brake pad where the carrier-plate is made of metal and attached to the lining by brazing. Nevertheless, the lining attached by brazing is fundamentally different from the type of brake lining disclosed by Agren et al, and Applicants submit that one of ordinary skill in the art would not make the substitution.

Ogiwara has been cited to show a brake lining comprising graphite, ceramic powder and metallic chips bonded by a resin, but does not otherwise cure the defects of the Agren et al and Nakamura references.

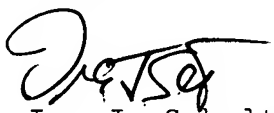
Hahm has been cited to show the use of a heat shield disposed over a surface of the carrier-plate, but does not otherwise cure the defects of the Agren et al and Nakamura references.

Withdrawal of these rejections is requested.

The allowability of claims 20-21 over the art of record has been noted.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



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